

WHAT IS CLAIMED IS:

1. A method for processing an audio/video signal and an auxiliary information
signal comprising text data that is temporally related to the audio/video signal, said
5 method comprising the steps of:

sequentially analyzing portions of said text data in an original language in which
said text data is received;

sequentially translating said portions of text data into a target language; and

10 displaying said portions of translated text data while simultaneously playing the
audio/video signal that is temporally related to each of the portions.

2. A method as in claim 1, further comprising the step of:

receiving said audio/video signal and said auxiliary information signal;

15 separating said audio/video signal into an audio component and a video
component; and

filtering said text data from said auxiliary information signal.

3. A method as in claim 1, wherein the step of sequentially analyzing said portions
of text data includes the step of determining where a term present in said portion of text
20 data under analysis is repeated and if the term is determined to be repeated, replacing the
term with a different term of similar meaning in all occurrences after a first occurrence of
the term.

4. A method as in claim 1, wherein the step of sequentially analyzing said portions of text data includes the step of determining whether one of a colloquialism and metaphor is present in said portion of text data under consideration, and replacing said ambiguity with standard terms representing the intended meaning.

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5. A method as in claim 1, further comprising the step of sequentially analyzing said portions of translated text data and determining whether one of a colloquialism and metaphor is present in said portions of translated text data, and replacing said ambiguity with standard terms representing the intended meaning.

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6. A method as in claim 1, wherein the step of sequentially analyzing said portions of text data includes the step of determining parts of speech of words in said portion of text data under consideration and displaying the part of speech with the displayed translated text data.

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7. A method as in claim 1, further comprising the step of analyzing said portions of text data and said portions of translated text data by consulting a cultural and historical knowledge database and displaying the analysis results.

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8. A method as in claim 2, wherein said text data is closed captions, speech-to-text transcriptions or OCR-ed superimposed text present in said video component.

9. A method as in claim 1, wherein said synchronized audio/video signal is a radio/television signal, a satellite feed, a digital data stream or signal from a video cassette recorder.

5 10. A method as in claim 1, wherein said audio/video signal and said auxiliary information signal are received as an integrated signal and said method further comprises the step of separating the integrated signal into an audio component, a video component and an auxiliary information component.

10 11. A method as in claim 10, wherein said text data is separated from other auxiliary data.

12. A method as in claim 10, wherein said audio component, said video component and said auxiliary information component are synchronized.

15 13. A method as in claim 1, further comprising the step of setting a personal preference level for determining a level of difficulty in which to perform the step of sequentially translating said portions of text data into the target language.

20 14. A method as in claim 13, wherein the level of difficulty is automatically increased based on a predetermined number of occurrences of similar terms.

15. A method as in claim 13, wherein the level of difficulty is automatically increased based on a predetermined period of time.

5 16. An apparatus for processing an audio/video signal and an auxiliary information component comprising text data that is temporally related to the audio/video signal, said apparatus comprising:

one or more filters for separating said signals into an audio component, a video component and related text data;

10 a microprocessor for analyzing portions of said text data in an original language in which said text data is received, the microprocessor having software for translating said portions of text data into a target language and formatting the video component and related translated text data for output;

display for displaying the portions of the translated text data while simultaneously displaying the video component; and

15 amplifier for playing the audio component of said signal that is temporally related to each of the portions.

17. An apparatus as in claim 16, further comprising:

a receiver for receiving said signals; and

20 a filter for extracting text data from said auxiliary information component.

18. An apparatus as in claim 16, further comprising a memory for storing a plurality of language databases, wherein said language databases include a metaphor interpreter.

19. An apparatus as in claim 16, wherein said language databases include a thesaurus.

5 20. An apparatus as in claim 18, wherein said memory further stores a plurality of cultural/historical knowledge databases cross-referenced to said language databases.

21. An apparatus as in claim 16, wherein the microprocessor further comprises parser software for describing said portions of text data by stating its part of speech, form and syntactical relationships in a sentence.

10 22. An apparatus as in claim 16, wherein the microprocessor determines whether one of a colloquialism and metaphor is present in said portion of text data under consideration and said portions of translated text data, and replaces said ambiguity with standard terms representing the intended meaning.

15 23. An apparatus as in claim 16, wherein the microprocessor sets a personal preference level for determining a level of difficulty for translating said portions of text data into the target language.

20 24. An apparatus as in claim 23, wherein the microprocessor automatically increases the level of difficulty based on a predetermined number of occurrences of similar terms.

25. An apparatus as in claim 23, wherein the microprocessor automatically increases the level of difficulty based on a predetermined period of time.

26. A receiver for processing a synchronized audio/video signal containing an auxiliary information component that is temporally related to said audio/video signal, said receiver comprising:

input means for receiving said signal;

demultiplexing means for separating said signal into an audio component, a video component and said auxiliary information component;

filtering means for extracting text data from said auxiliary information component;

a microprocessor for analyzing said text data in an original language in which said signal was received;

translating means for translating said text data into a target language; and

output means for outputting the translated text data, the video component and the audio component of said signal to a device including display means and audio means.